

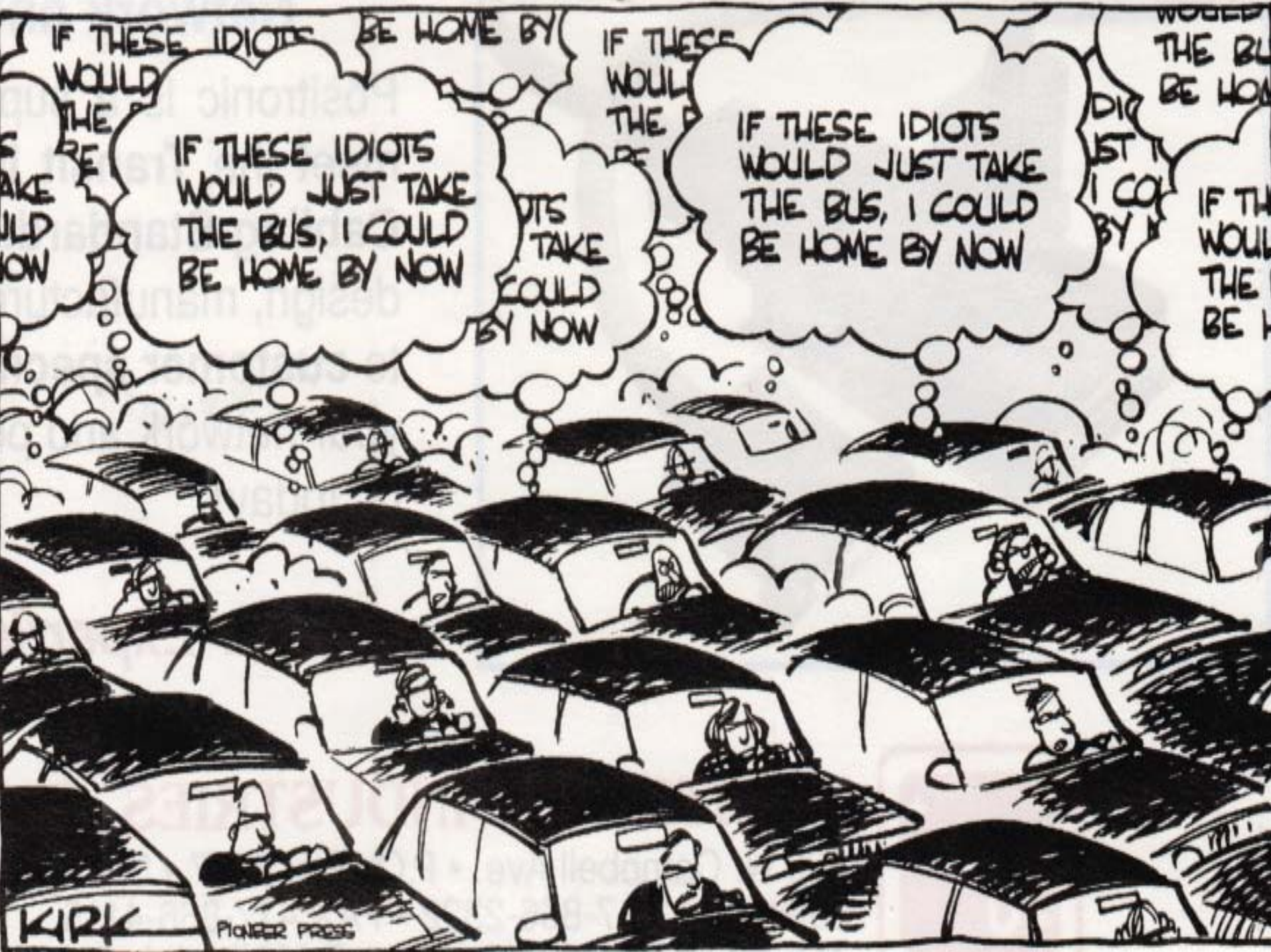
# *HOV Lane Data Collection, Procedures, and Forecasting*

*The Texas Transportation Institute*

**NATMEC02**

**May 15, 2002**





IF THESE IDIOTS  
WOULD  
THE  
BE

IF THESE IDIOTS  
WOULD JUST TAKE  
THE BUS, I COULD  
BE HOME BY NOW

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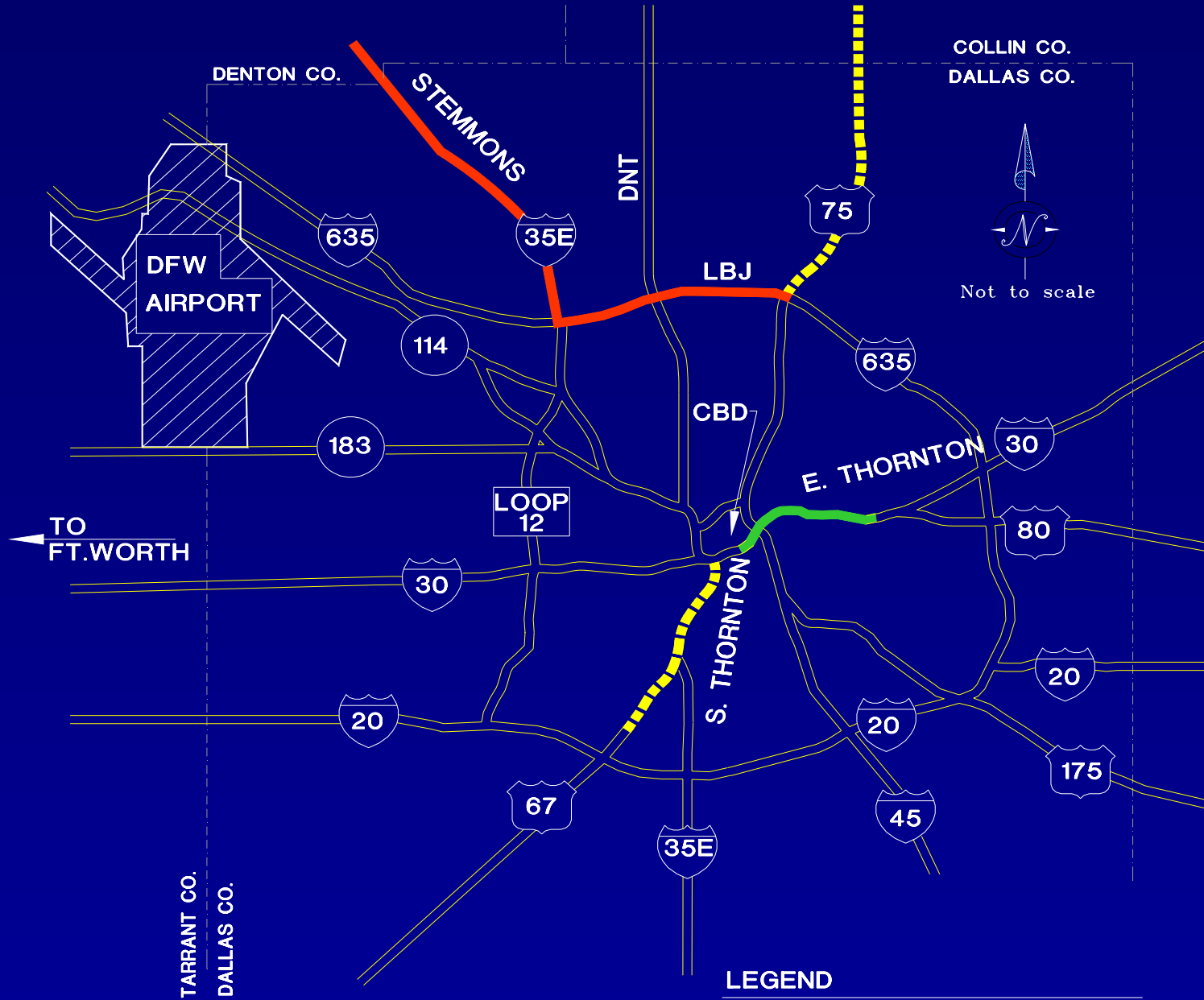
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WOULD  
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WOULD JUST TAKE  
THE BUS, I COULD  
BE HOME BY NOW

KIRK

PIONEER PRESS



LEGEND

-  Contraflow HOV Facility
-  Concurrent Flow HOV Facility
-  Planned HOV Facility













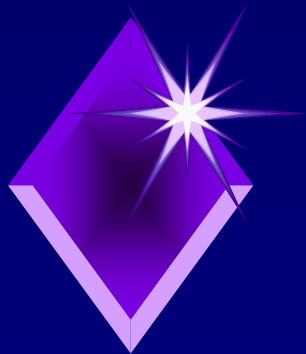












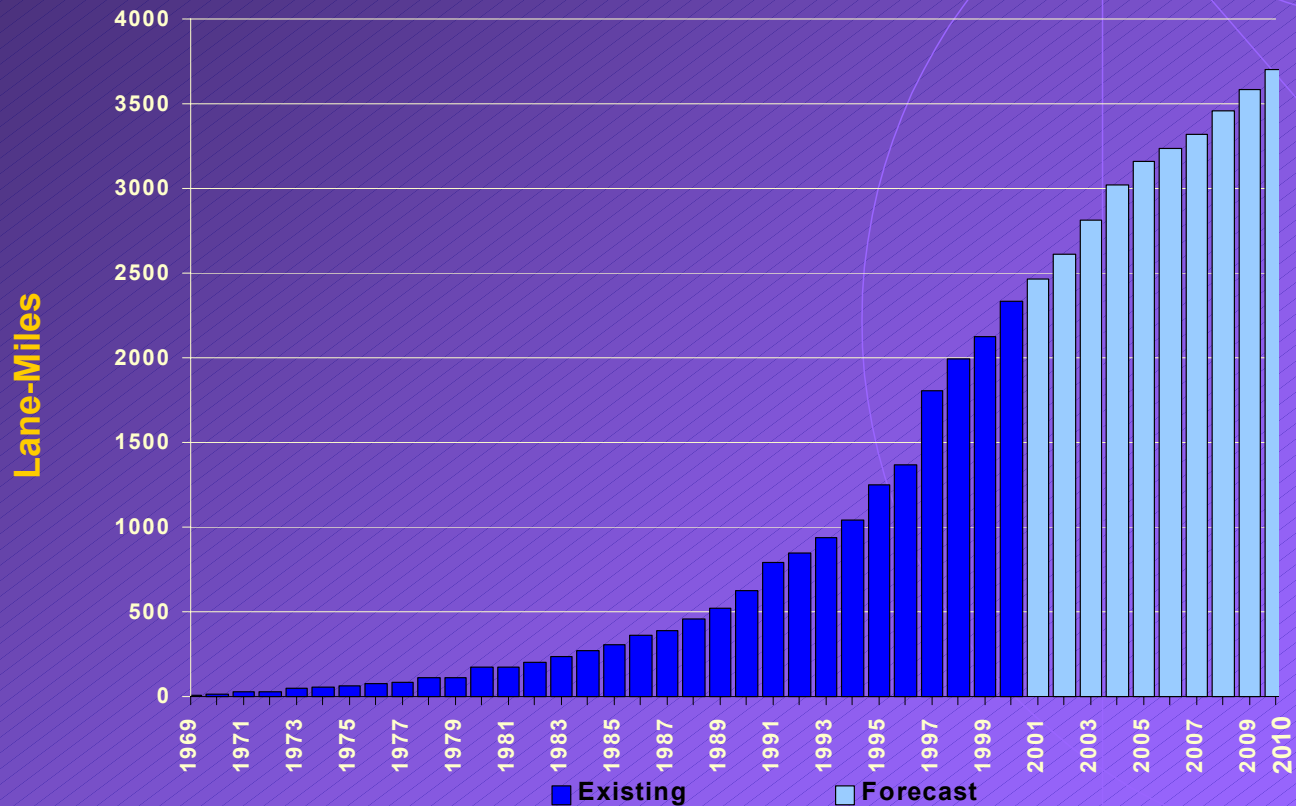
# *HOV Lane Development in North America*

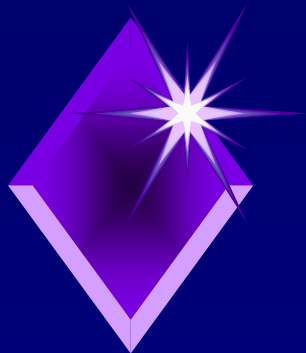
- ◆ 1970: Three projects on freeways
- ◆ 1980: 125 lane-miles
- ◆ 1990: 600 lane-miles
- ◆ 2000: 2400 lane-miles,
- ◆ 2010: 3700 lane-mile





# Existing & Forecasted Miles of Operating HOV Facilities (1969-2010)



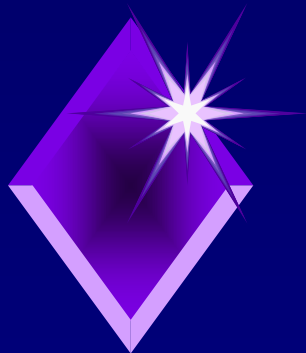


# *HOV Lane Objectives*

- ◆ Increase Vehicle Occupancy
- ◆ Increase Person-Movement Capacity
- ◆ Should Not Adversely Impact Freeway
- ◆ Be Cost-Effective
- ◆ Generate Public Support
- ◆ Improve Air Quality
- ◆ Reduce Fuel Consumption



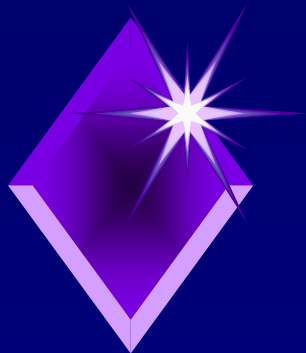




# *Factors Influencing HOV Lane Utilization*

- ◆ Travel Time Savings and Trip Time Reliability
- ◆ Occupancy Requirement to Use the Lane
- ◆ Length of Time the Lane has been Operating



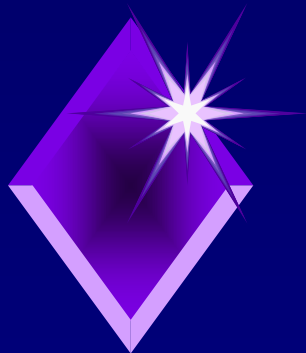


# *HOV Lane Measures of Effectiveness*

- ◆ Changes in Roadway Person Movement
- ◆ Changes in Average Vehicle Occupancy
- ◆ Efficiency of Bus Transit Operations
- ◆ Adjacent Freeway Mainlane Operations



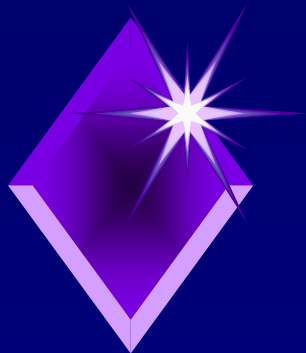




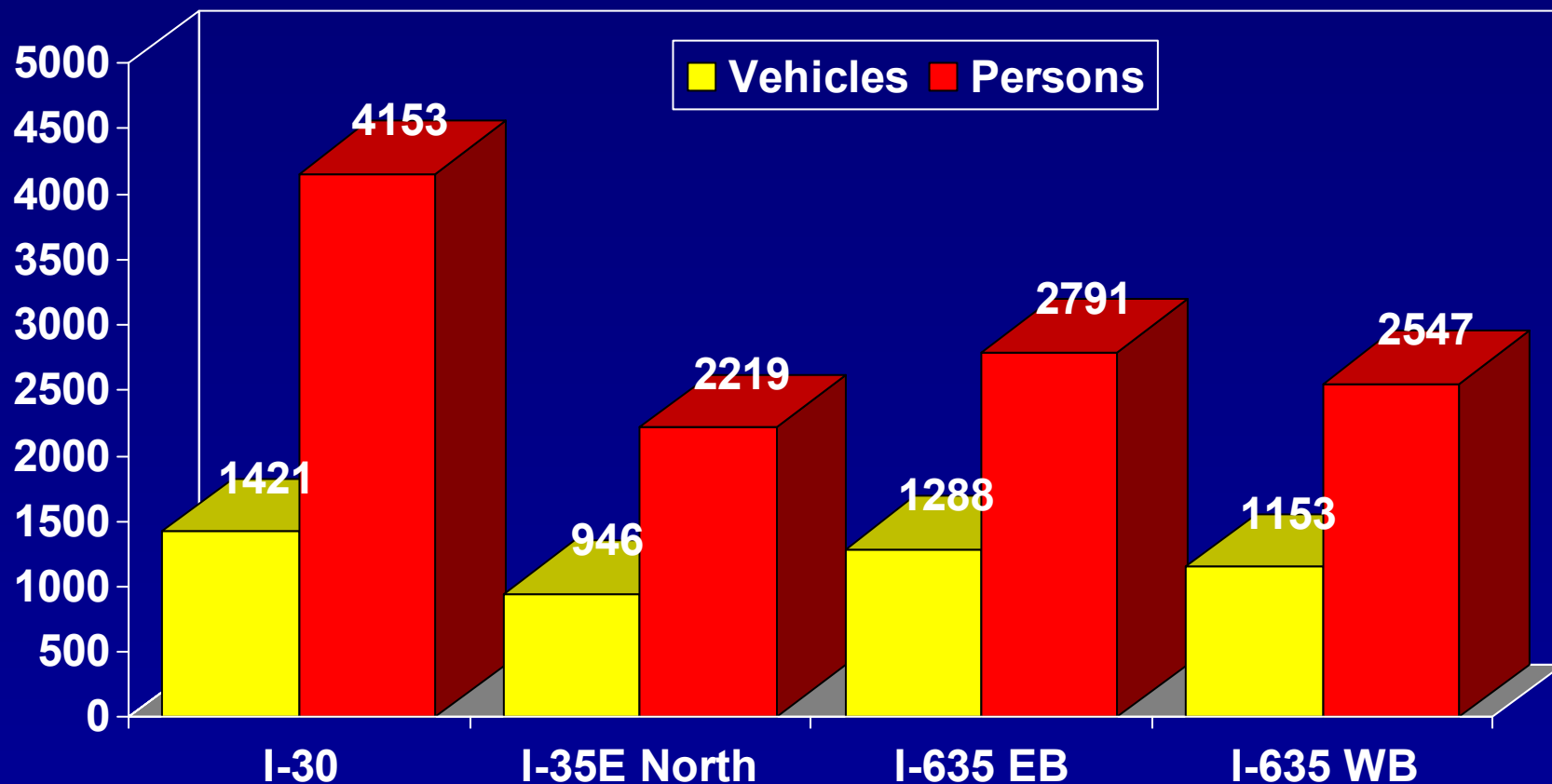
# *Data Collection*

- ◆ Monthly on HOV Lanes
- ◆ Quarterly on Freeway Lanes

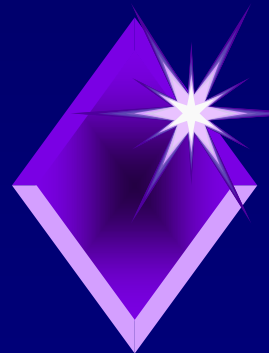




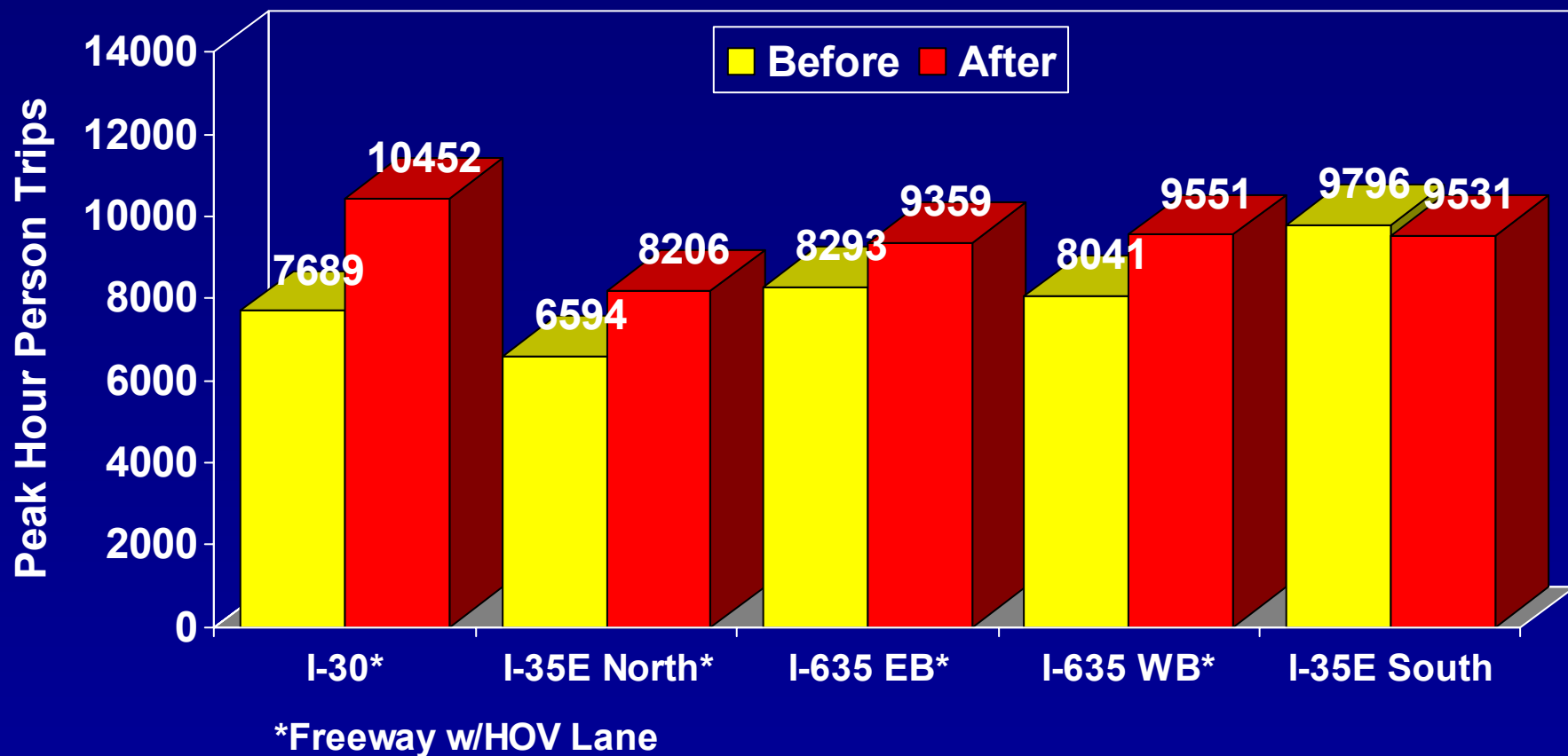
# *Peak Hour HOV Lane Volumes - July 2001*

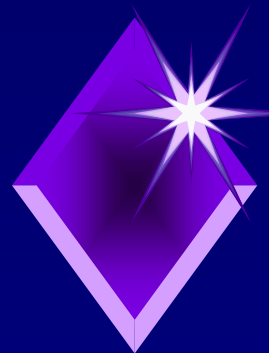




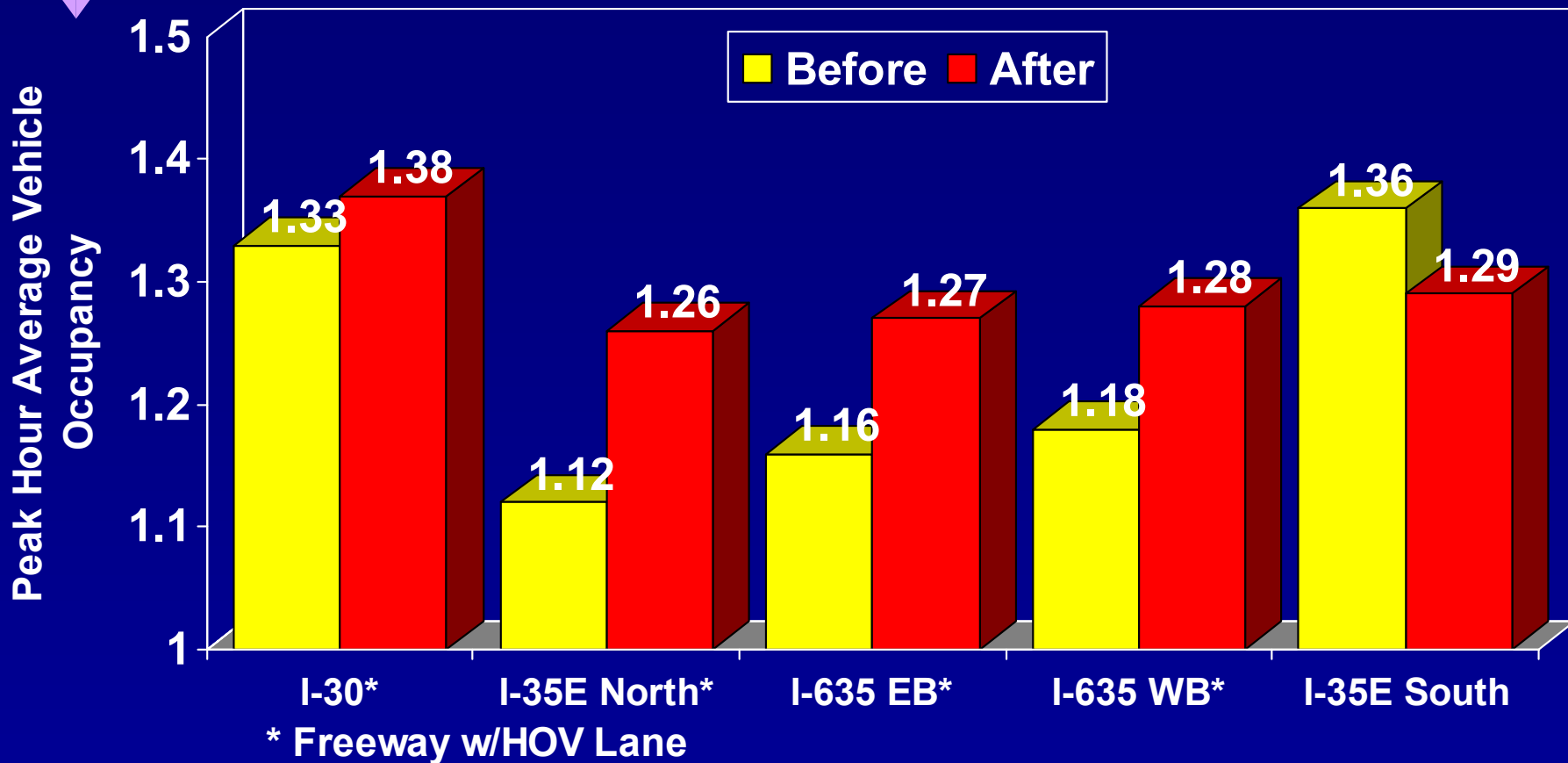


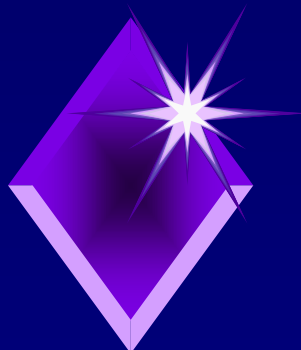
# *AM Peak Hour Person Trips*



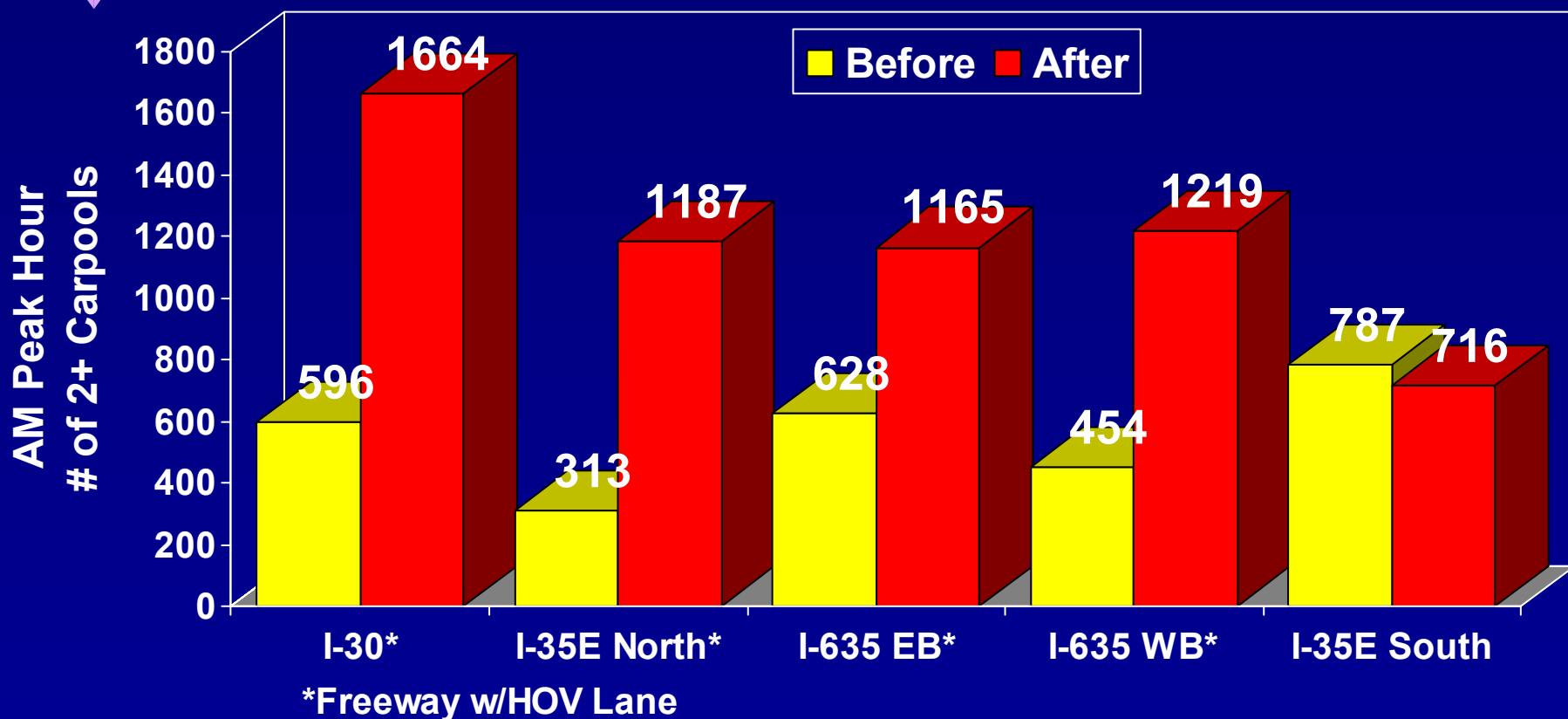


# *Average Vehicle Occupancy*

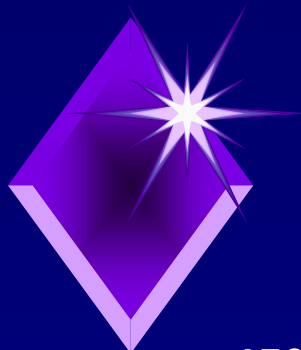




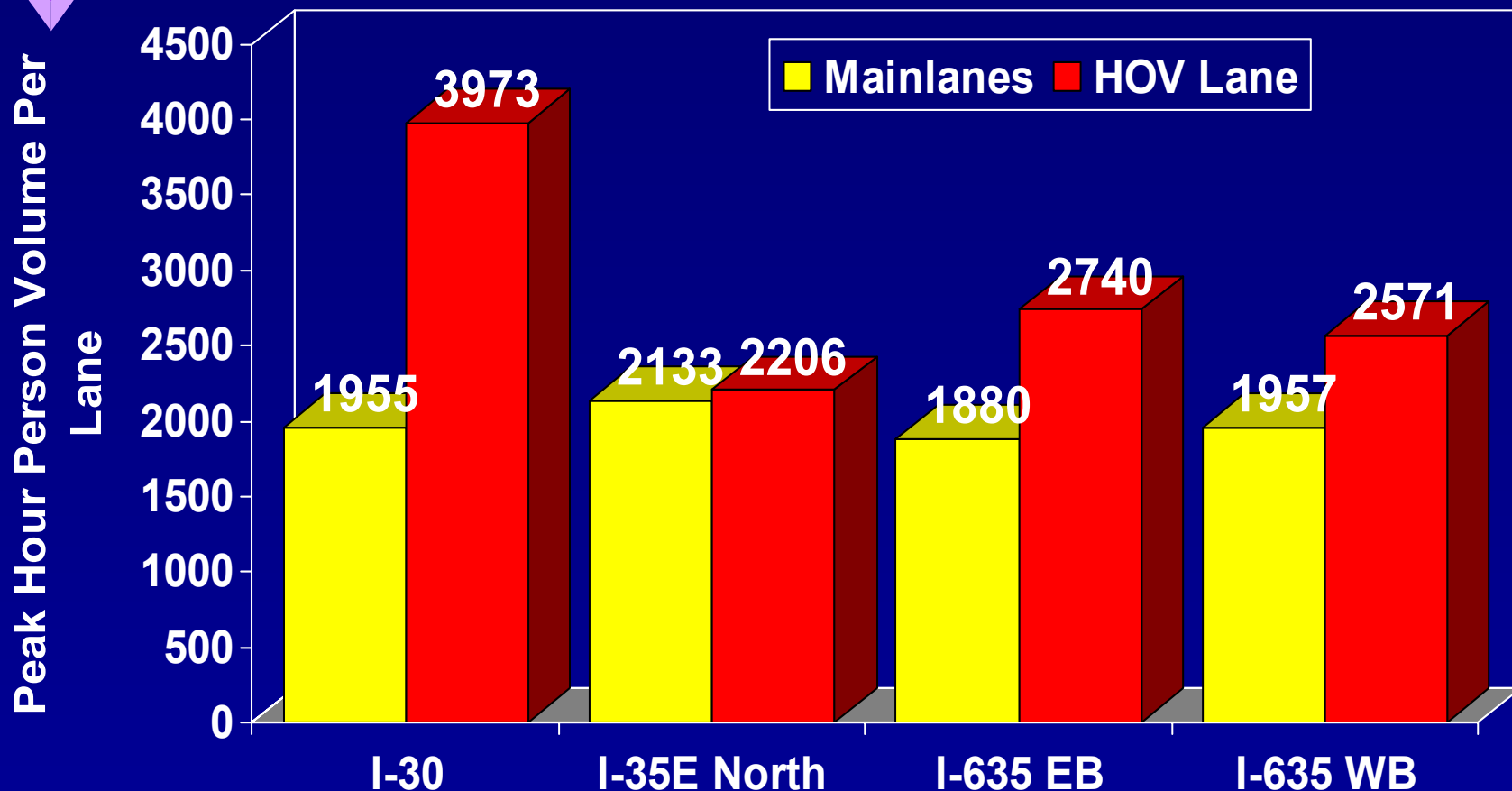
# *2+ Carpools - AM Peak Hour*

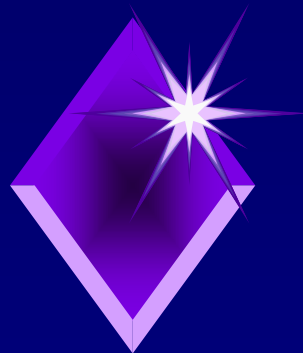




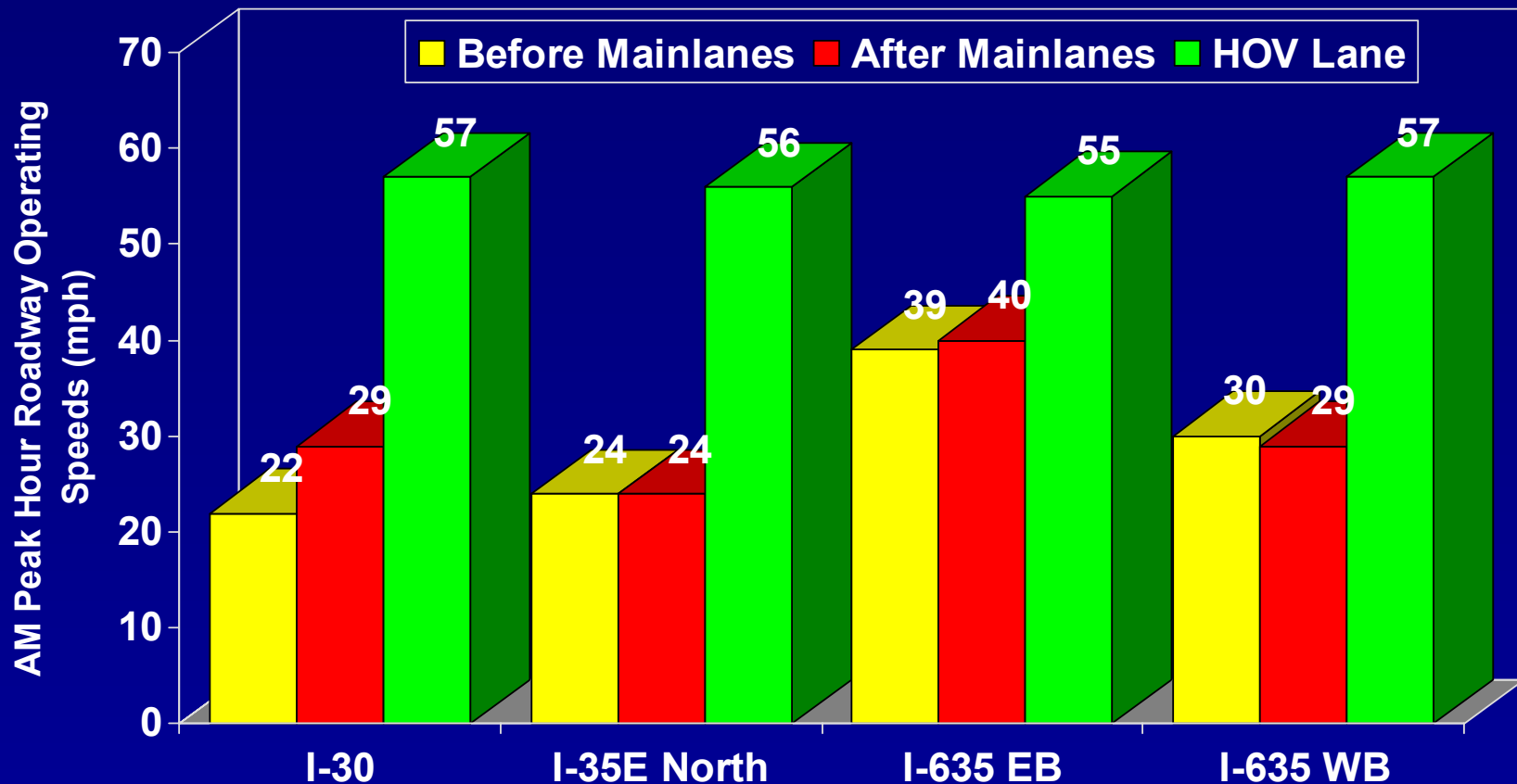


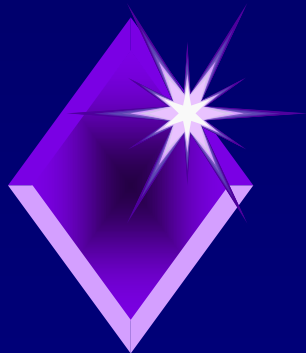
# *Peak Hour Person Volume*



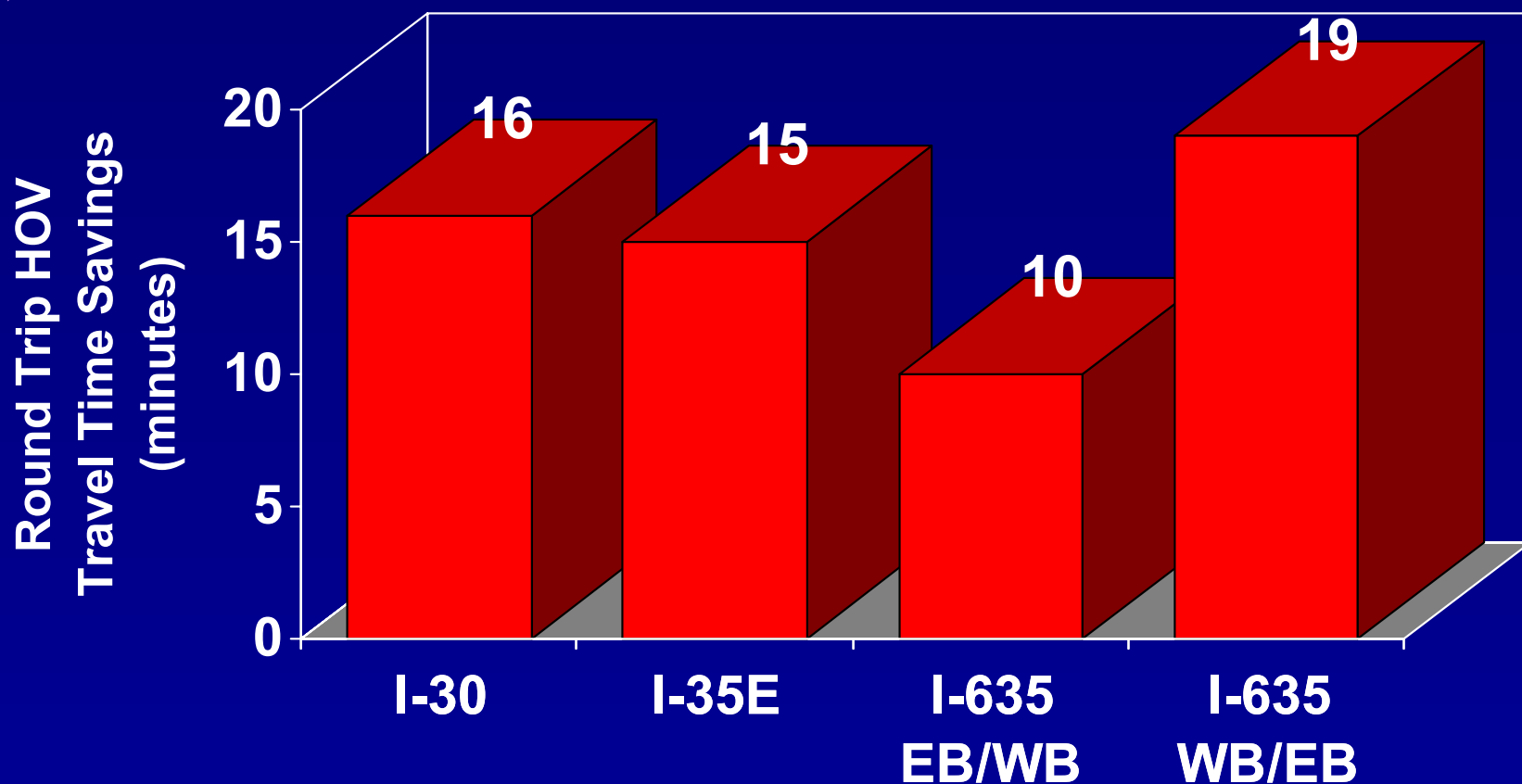


# *Peak Hour Operating Speeds*





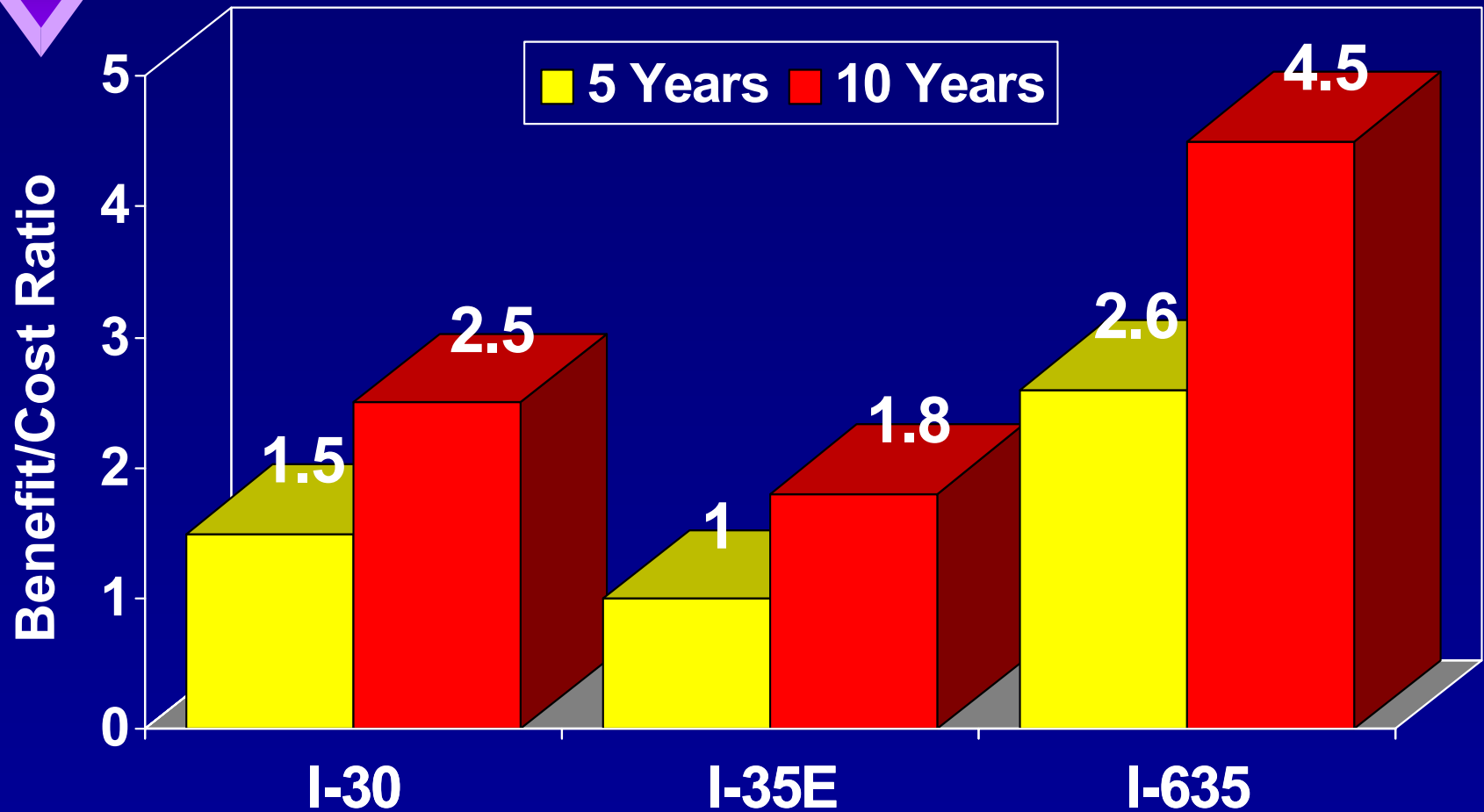
# *HOV Travel Time Savings*

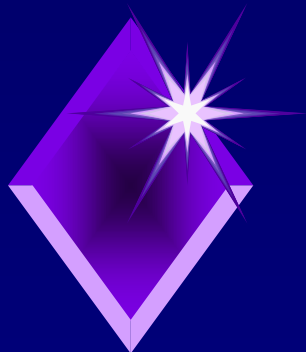




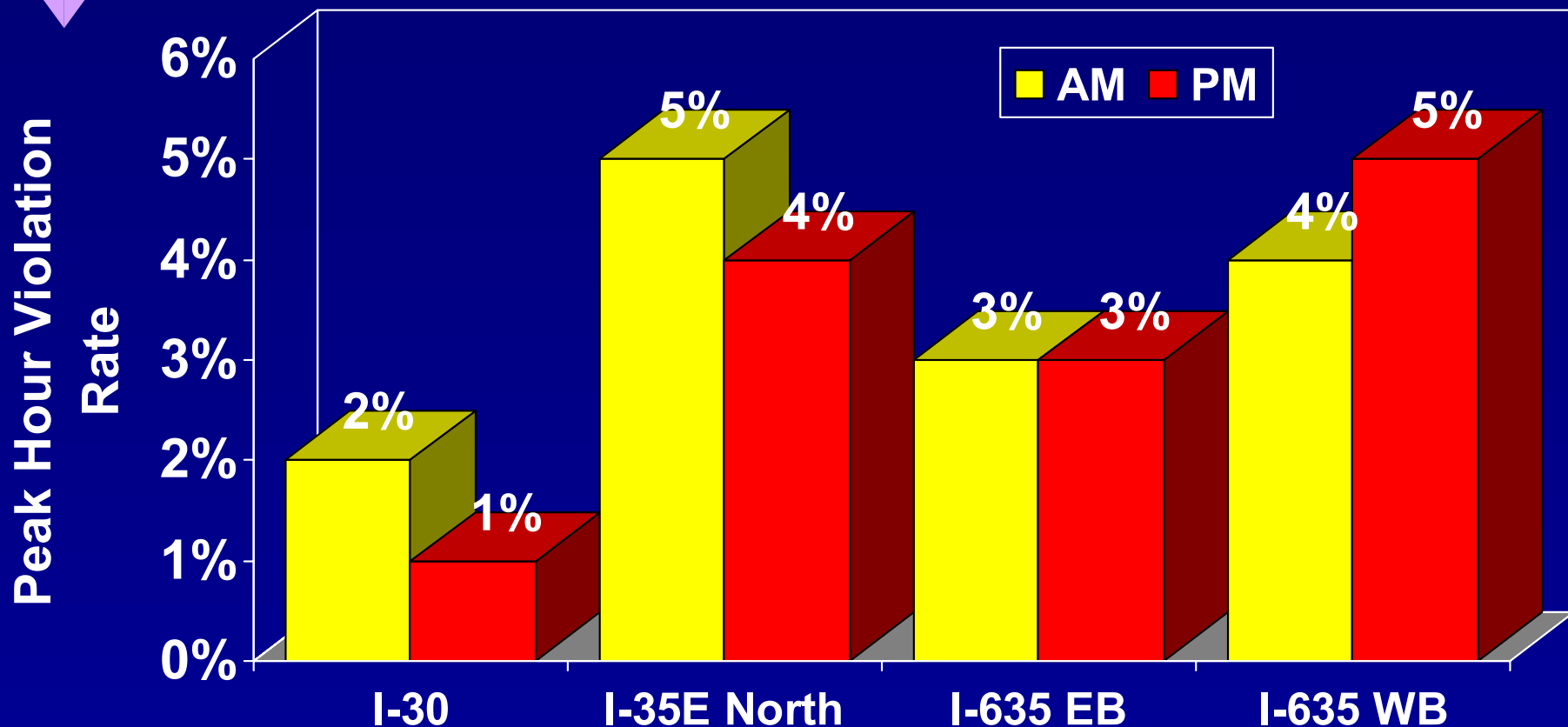


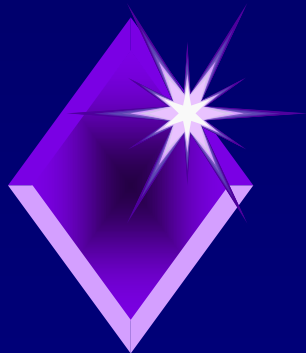
# *Cost Effectiveness*





# *Peak Hour Violation Rate*



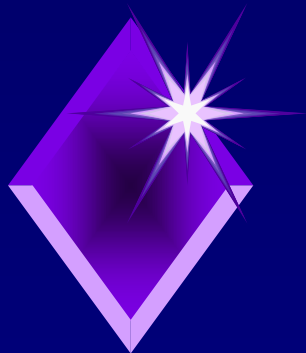


## *Other Issues*

- ◆ Safety
- ◆ Enforcement/Operation
- ◆ Off-Peak Use
- ◆ Toll Applications
- ◆ Public Perception



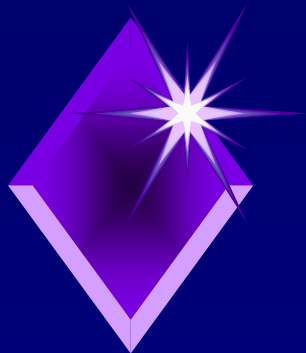




# *Current Procedures*

- ◆ Manual Observation
- ◆ DMI for Travel Times
- ◆ Manual Park-and-Ride Counts

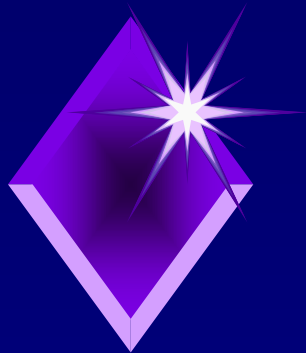




# *MPO Uses of Data*

- ◆ Model Validation
- ◆ Forecasting
- ◆ Press Releases
- ◆ Newsletters
- ◆ Public Meetings/Hearings

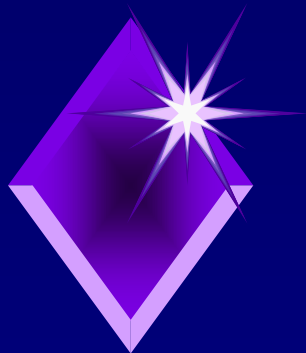




# *Positives*

- ◆ Accurate
- ◆ Data Immediately Available
- ◆ Quality Control



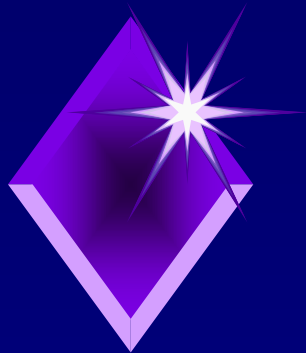


# *Negatives*

- ◆ Cost
- ◆ Personnel
- ◆ Equipment
- ◆ Incidents





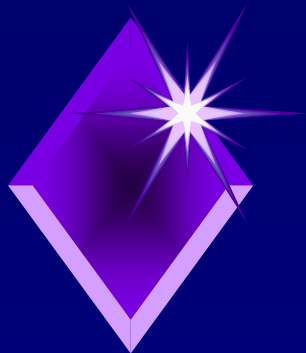


# *Alternatives*

## AUTOMATION

- ◆ Real-Time Data
- ◆ Average Monthly Data





# *Other Considerations*

- ◆ Changing Vehicle Occupancy Requirements
- ◆ Managed/Toll/HOT Lanes
- ◆ Hours of Operation
- ◆ Enforcement

